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in the Latinized names of our higher plants, they insured the most rapid possible introduction of the proposed changes by taking steps for the compilation and publication of a check list in which these changes should appear; and the frequent adoption of the names approved by the authors of that list, in general and local botanical papers, and their subsequent application through the large *Illustrated Flora* of Britton and Brown, have made them generally familiar, — to the pleasure of some and the great regret of other botanists, both at home and abroad. With the changes in names have also come a change in the way of viewing species and increased attention in the field to the divisibility of species which scarcely admitted of a satisfactory knowledge from herbarium material.

To meet these needs and changed conditions the *Illustrated Flora* was prepared; and yet it was too bulky and, notwithstanding its remarkable cheapness, too costly for the fullest desirable uses. Because of these reasons, Dr. Britton, the active editor of the *Flora*, set to work to prepare a more condensed manual with the same purpose and limits as the *Flora*, and it now appears in a convenient and — for this class of book — attractive form, and is undoubtedly destined to have a wide sale and to serve a good purpose. That it will lead to a recognition of many valid species of the region covered, not recognizable by use of the familiar *Manual* of Dr. Gray, is certain, and that it will ultimately replace the latter in general use is not improbable, though the present writer would recommend the use of the two conjointly, rather than of either by itself.

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Vegetable Pathology.¹ — Almost from the installation of the first agricultural experiment station, the diseases of plants have been a fruitful and legitimate subject for investigation, and the selection of a station botanist has more than once hinged on his fitness to become the plant pathologist at the same time. Yet the efforts of investigators have been largely turned to the study of the life histories of parasitic fungi and the means of directly combating them, rather than to the fundamental study of pathology itself. No one who takes the trouble to read Professor Marshall Ward's presidential address before the botanical section of the British Association, delivered a few years ago, can fail to be impressed by his familiarity with the details of applied botany, and the volume before us marks a distinct advance in knowledge and points the way for the establishment of

¹ Ward, H. Marshall. *Disease in Plants*. London, Macmillan & Co., 1901. xiv + 309 pp.

an art of plant therapy, if this is ever to be possible or worth the establishment.

The Flora of Tennessee.¹—No living botanist is as familiar with the interesting plants of Tennessee as the venerable Dr. Gattinger, who, like the late Dr. Mohr of Alabama, has spent many years in field study and now brings together the results of his work. Tennessee is a state of diversified topography, and the systematic list is preceded by a discussion of the factors which influence plant distribution. Like Dr. Mohr, Dr. Gattinger adapts himself to the Neoamerican practices in nomenclature and to the phylogenetic classification of the Germans, though not without a word of protest. Whether or not he be followed in his philosophic ideas, they contain the kernel of much that is good.

The Grasses of Iowa.²—In the prefatory note to this book Professor Calvin, the state geologist, tells us that the law creating the Iowa Geological Survey provides for the publication of bulletins on subjects of economic interest relating to the natural history of the state, and this consideration of one of the most important economic groups of plants forms the first of such bulletins. The topics treated are: the general structure and physiological characters of Gramineæ; purity and vitality of grass seed; cereals; fungus and bacterial diseases of grasses; the pastures and meadows of Iowa; weeds of meadows and pastures; chemistry of foods, and feeding; and lawns and lawn-making in the state. Professors Pammel and Weems are well equipped by training and opportunity for the consideration of these topics, and it is understood that the systematic discussion of the group, for which Professor Lamson-Scribner will be largely responsible, is to constitute a second volume complementary to the one now used.

Chlorophyll.³—No. 10 of the biologic series of *Scientia* presents in a manner not too technical for the layman the main facts concerning the chlorophyll function in plants as carried on under various external conditions. The structure, as well as the function, undergoes adaptive modifications in response to these conditions, and the

¹ Gattinger, Augustine. *The Flora of Tennessee, and a Philosophy of Botany*. Nashville, 1901.

² Pammel, L. H., Weems, J. B., and Lamson-Scribner, F. *The Grasses of Iowa*. Des Moines, 1901. 525 pp., 220 ff.

³ Griffon, Ed. *L'assimilation chlorophyllienne et la structure des plantes*, *Scientia*, Biologie, No. 10. Georges Carré et C. Naud, Éditeurs. Paris.